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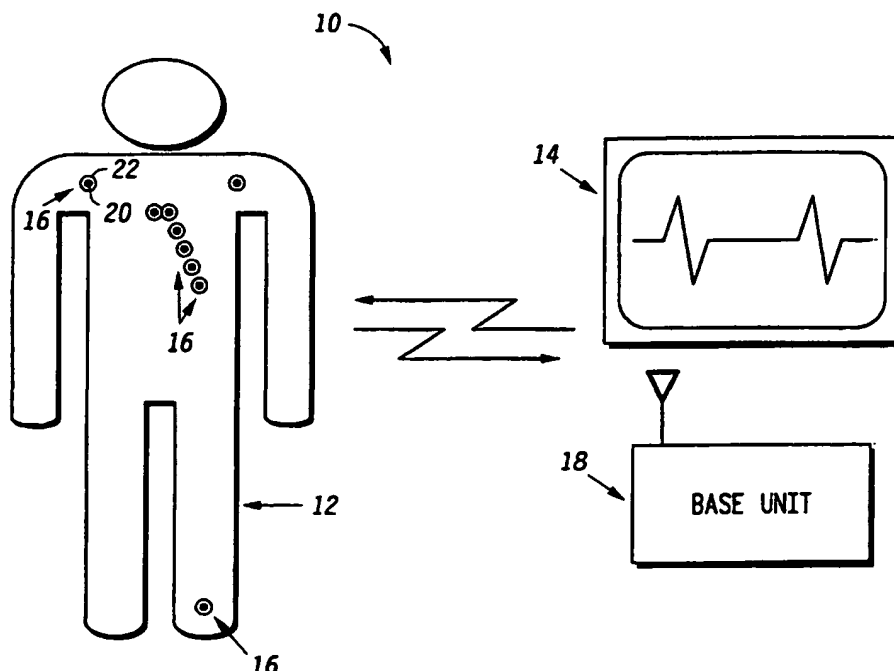
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(54) Title: WIRELESS SYSTEM PROTOCOL FOR TELEMETRY MONITORING



(57) Abstract: A wireless, programmable system for medical monitoring includes a base unit (18) and a plurality of individual wireless, remotely programmable biosensor transceivers (20). The base unit (18) manages the transceivers (20) by issuing registration, configuration, data acquisition, and transmission commands using wireless techniques. Physiologic data from the wireless transceivers (20) are demultiplexed and supplied via a standard interface to a conventional monitor (914) for display. Initialization, configuration, registration, and management routines for the wireless transceivers and the base unit are also described.



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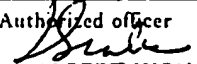
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/12562

A. CLASSIFICATION OF SUBJECT MATTER IPC(7) : Please See Extra Sheet. US CL : Please See Extra Sheet. According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 340/870.07, 870.11, 870.16, 128/903, 600/508, 509, 607/30, 64 62 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EAST search terms: telemetry, cdma, monitor, monitoring, wireless, ecg, ekg, heart		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y ----- A	US 5,511,553 A (SEGALOWITZ) 30 APRIL 1996, ALL	29-51 ----- 1-28,63-64
A,P	US 6,163,276 A (IRVING et al) 19 DECEMBER 2000, ALL	52-62
Y ----- A	US 4,981,141 A (SEGALOWITZ) 01 JANUARY 1991, ALL	29-51 ----- 1-28,63-64
A	US 5,862,803 A (BESSON et al) 26 JANUARY 1999, ALL	29-51
A	US 5,307,818 A (SEGALOWITZ) 03 MAY 1994, ALL	1-51, 63-64
A	US 5,168,874 A (SEGALOWITZ) 08 DECEMBER 1992, ALL	1-51, 63-64
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention	
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone	
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art	
"I" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"A" document member of the same patent family	
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 05 AUGUST 2001	Date of mailing of the international search report 11 JAN 2002	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  ALBERT WONG	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/19562

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,907,291 A (CHEN et al) 25 MAY 1999, ALL	1-28,63-64
A	US 4,608,994 A (OZAWA et al) 02 SEPTEMBER 1986, ALL	1-64
A	US 5,153,584 A (ENGIRA) 06 OCTOBER 1992, ALL	1-64
A	US 4,531,526 A (GENEST) 30 JULY 1985, ALL	1-64
A	US 5,458,122 A (HETHUIN) 17 OCTOBER 1995, ALL	1-64
A	US 5,862,803 A (BESSON et al) 26 JANUARY 1999, ALL	1-64
A	US 5,929,782 A (STARK et al) 27 JULY 1999, ALL	1-64

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/12562

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please See Extra Sheet.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐
☐

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/12562

A. CLASSIFICATION OF SUBJECT MATTER:

IPC (7):

G08B 21/00; G08C 19/22, 19/04, 19/10; H04Q 09/00; A61B 05/02, 05/04; A61N 01/18, 01/20, 01/22, 01/24, 01/08, 01/10, 01/24, 01/26, 01/30, 01/36, 01/30, 01/32

A. CLASSIFICATION OF SUBJECT MATTER:

US CL :

340/870.07, 870.11, 870.16, 128/903; 600/508, 509; 607/30, 60, 62

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING

This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-28 AND 63-64, drawn to a wireless medical monitoring system.

Group II, claim(s) 29-51, drawn to a wireless electrocardiogram system.

Group III, claim(s) 52-62, drawn to a machine-readable storage medium with software for programming transceivers.

The inventions listed as Groups I, II, and III do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II includes the technical feature of electrodes for monitoring the heart functions of a patient not found in Groups I or III. Group III includes the technical feature of a machine-readable storage medium with instructions for programming transceivers for communication with the base station.